

Patent

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REMARKS

The applicant has amended claim 3 to address an antecedent basis problem and claims 15 and 17 to address indefiniteness problems. Applicant has also amended claim 7 to more fully describe the embodiment of the invention set forth. Finally, applicant has canceled claim 1.

The applicant provides the following information to respectfully traverse the above referenced objections and rejections. First, the specification stands objected to because the disclosure is non-enabling with respect to the recited subject matter of claim 1. Since claim 1 has been canceled, this objection is moot.

Second, the drawings stand objected to as not showing every feature of the invention specified in the claims. Specifically, the examiner states that the embodiment of the invention described in claim 1 is not fully shown in the drawings. Since claim 1 has been canceled, this objection also is moot.

Next, claim 3 stands objected to due to informalities. Specifically, the examiner indicates that the term "the sample" in line 17 has no antecedent basis. Applicant has amended claim 3 to obviate this problem.

Also, claim 1 stands rejected under the judicially created doctrine of obviousness-type double patenting. Since claim 1 has been canceled, this rejection is moot.

Further, claims 15 and 17 stand rejected under 35 U.S.C. § 112, second paragraph as indefinite. Specifically, the examiner indicates that it is unclear how the first end of the waveguide could be attached to the second side of the solid-state emitter. Applicant agrees that this language was in error and has modified the claims to indicate that the first end of the waveguide is attached to the first side of the solid-state emitter.

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Yet further, claims 1 and 7-9 stand rejected under 35 U.S.C. § 103(a) as unpatentable over Immega, et al. (US 5,726,443). As the rejection relates to claim 1, as noted above, the rejection is moot. Regarding claim 7, the examiner indicates that Immega, et al. discloses all of the elements of this claim with the exception of teaching radiant energy as collimated or use of a waveguide for conducting the radiant energy to the sample. The examiner continues by asserting that "it is well known in the art to provide collimated illuminating light in an imaging system, to maximize the light intensity and provide uniform illumination, and use a waveguide to direct light (radiant energy) onto a sample, to provide the ability to locate the light source in a remote or external location." First, applicant notes that the embodiment of the invention of claims 7-9 do not include a waveguide.

Second, applicant strongly objects to the examiner's assertion of "what is well known in the art." Applicant asserts that because the examiner's comments regarding what is well known in the art are merely general process statements, rather than specific to any device or method of how to accomplish these general processes, that the comments are irrelevant to the invention claimed within the application. All devices that use light to illuminate a sample in order to obtain information regarding that sample provide illuminating light, attempt to maximize light intensity and provide uniform light, most using some method of guiding the light to the sample, so as to provide the ability to locate the light source in a remote location (to discern something about the sample). However, the novelty regarding any such device is **how** (bold added for emphasis) the device accomplishes these broad steps. To be patentable, a device does not have to accomplish a new goal, but, merely must use novel elements in order to accomplish an existing goal. Therefore, the applicant asserts that the above comments in no way provide a

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basis or rationale for showing the particular elements used in order to accomplish certain aspects of the present invention's goals are obvious.

This embodiment of the present invention in claims 7-9 is basically the embodiment of the invention shown in Figs. 3, 3a, and 3b of the present application. Immega, et al. does not disclose or imply the elements of the claims of these embodiments of the invention. First, the examiner states that Immega, et al. discloses a plurality of emitters (33)...on the second end of the microchannel structure. However, element 33a is a single light source (not a plurality of emitters) that is located to the side of the microchannel structure (not on an end as required by the claims) that appears to shine light onto a lens that directs the light along a transparent cover that appears to indirectly provide light to the sample. Because the location of the emitters described by the present claims provides direct light to the sample, it is apparent that element 33a is not the same or closely related to meeting the elements noted above. Applicant does note that element 34 is a luminescent panel across a portion of an end of the microchannel structure and could supply direct light to a portion of the sample. However, this element does not meet the amended claim language that the solid state emitters be located so as no light is emitted directly into the microchannels. Because the panel is shown to cover all of the end of the microchannel structure the edges of such a panel could certainly emit light directly into the channel. Therefore, Immega, et al. does not disclose or imply these elements.

Further, the examiner states that although Immega, et al. does not teach using solid-state emitters (such as diodes or light emitting polymers) or the transparent cover containing conduction paths to conduct power to the emitters, such things are well known in the art, and, therefore obvious. Applicant disagrees. If it is well known to use such devices in the configuration described within the claims, why would Immega, et al., who obviously would be

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considered at least skilled in the art, not describe, disclose, or use such elements? Again, while the extremely general assertion made by the examiner may be somewhat true in the abstract, applicant asserts that the novelty of using the elements in the present invention comes from the location and particular use for this device. Because the solid-state emitters are located in a particular location for the specific use of this embodiment of the invention, coupled with the microchannel structure, the transparent planar element requires the conduction paths, etc. to make the device function as intended. Applicant believes that there is absolutely no impetus provided by the examiner as to why one skilled in the art would modify Immega, et al., as the examiner suggests, in order to obtain the present invention. Applicant believes there is no impetus due to the fact that the Immega, et al. device uses different components/elements in order to obtain a different result than the present invention. To argue that a modification to a device such as that disclosed in Immega, et al. is obvious, requires an impetus to modify said device, other than simply that one could do so to obtain the present invention.

Finally, claims 15 and 16 stand rejected 35 U.S.C. § 103(a) as unpatentable over Wang (US 6,072,175) in view of Turner (US 5,835,649). Specifically, the examiner indicates that Wang discloses all of the elements in these claims except the emitter having a first side and second side, the first side of the emitter radiating energy, the second side of the emitter mounted to the first side of a scanning stage, a waveguide having first and second ends and an internally reflective surface, the first end of the waveguide attached to the first side of the solid state emitter allowing radiant energy from the solid-state emitter to enter the waveguide to be reflected by the internally reflective surface, the reflected radiant energy exiting at the second end of the waveguide, with the sensing element adjacent to the solid state emitter. Applicant notes that this is an extremely large number of elements not found in the reference. The examiner further

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argues that Turner, et al. discloses these elements and it would have been obvious to combine the references by one skilled in the art.

Applicant believes that while Turner, et al. does disclose a device that emits light and changes the direction of that light, it does not meet the elements of the present invention as the examiner suggests, and, therefore, no combination of Wang and Turner, et al. could provide the present invention. Turner, et al. teaches two optical fibers that are banded side-by-side together. One of the optical fibers emits light through the top of the fiber in a certain radius. The other optical fiber has a reflective window angled on the top of its outer surface that directs part of the light from the first fiber along the second fiber's axis. From this simple description, it can be clearly seen that the Turner, et al. disclosure does not describe the elements set forth in claim 15 as the examiner suggests. Claim 15 requires that one end of the waveguide is connected to the end of the emitter that emits light. In Turner, et al. the two optical fibers are connected side-by-side, which makes it physically impossible that their ends are connected. Claim 15 also requires that the waveguide has an internally reflective surface therein. The only reflective surface disclosed in Turner, et al. is located on an outer surface of one of the optical fibers. As can be clearly seen in all of the figures in Turner, et al., the device described therein was designed to emit light in one direction out of an optical fiber and reflect that light in a parallel direction along the other fiber. Since this configuration would not be operable in the invention described in claim 15, no combination of Turner, et al. and Wang would provide the present invention. Also, because the Turner, et al. device was designed to operate in a manner different than the device described in the present claims, using different elements placed in a different configuration, there would be no impetus to modify Turner, et al. to obtain the limitations of the present claims.

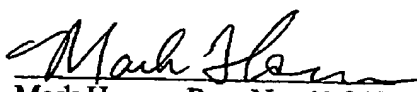
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Regarding claim 16, applicant asserts that it is improper for the examiner to merely state that using polarizing filters within beam splitters is well known in the art, and, therefore, makes the claim obvious. To make a proper rejection based upon well known practices in the art, an examiner must take official notice or provide a reference. Further, applicant argues that merely showing the use of a polarizing filter in a beam splitter is not sufficient to show that the claim is obvious. The claim discloses use of a polarizing filter in a beam splitter in a solid-state microscope of a particular configuration using particular elements. In order to make a proper showing of obviousness, one must, at least, show that such a use has occurred in a similar device for a similar purpose.

Accordingly, applicant believes that claims 3-9 and 15-18 are in condition for allowance and respectfully requests the examiner to withdraw all objections and rejections and allow said claims. Should the examiner need more information regarding this matter or have further suggestions regarding this application, feel free to call the undersigned at 818-354-7770.

Respectfully submitted,


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